CAMOSUN COLLEGE
Trades and Technology
Computer Science

ICS 199
Applied Computing Project
Summer 2020

COURSE OUTLINE

The calendar description is available on the web @ http://camosun.ca/learn/calendar/current/web/ics.html

Ω *Please note: This outline will not be kept indefinitely. It is recommended students keep this outline for their records, especially to assist in transfer credit to post-secondary institutions.*

1. Instructor Information

(a)	**Instructor**	Guenter Kiechle	
(b)	**Office hours**	by appointment (best via e-mail)	
(c)	**Location**	Ewing 310, Lansdowne Campus	
(d)	**Phone**	n.a.	**Alternative:**
(e)	**E-mail**	kiechleg@camosun.bc.ca	
(f)	**Website**	https://online.camosun.ca/d2l/home/170352	

2. Intended Learning Outcomes

Students in Information and Computer Systems and Interactive Media Developer programs will acquire applied experience in the process of defining, designing, developing and implementing an intermediate computer application. In small teams, students will use professionalism, collaboration and versioning tools to complete technical reports and continuous integration during development.

3. Required Materials

Materials on the D2L course page: presentation slides for lectures, lab or seminar assignment instructions

4. Course Content and Schedule

Online lectures on Mondays, Tuesdays, Wednesdays and Thursdays from 11:00 am to 12:20 am

Online labs on Tuesdays and Thursdays from 1:30 pm to 3:20 pm.

The topics of the course are:
- Advanced object-oriented concepts
    - Arrays and collections.
    - Inheritance
    - Interfaces
    - Abstract classes

- Polymorphism
- Generics
- How to use a modern game engine, e.g. Unity
  - How to create and modify objects
  - How to create scripts and connect them to Game objects
  - How Physics and collisions work
  - How 3D spaces work
  - How to handle movement of an (for example, handling keyboard events, Transform class)
  - 2D game creation (ie. Platformer game)
  - How to incorporate ready-made assets into a game (for example, from the Unity Store)
- How to connect a game engine to web resources and a database
  - PHP variables and data types
  - PHP control structures, arrays and iteration
  - How to use PHP to connect to a database server
  - How to use PHP to create queries and execute them on a database server
- Project work
  - Create a game using unity or a web shopping cart application
  - Create documentation for your project
  - Present your project results

5. Basis of Student Assessment (Weighting)
(Should be directly linked to learning outcomes.)

This is a completion-based course. Students are required to complete all of the following:

(a) Nine lab assignments

(b) 5 D2L-based quizzes

(c) Project documentation and presentation

6. Grading System
(If any changes are made to this part, then the Approved Course description must also be changed and sent through the approval process.)
(Mark with "X" in box below to show appropriate approved grading system – see last page of this template.)

| | Standard Grading System (GPA) |

| X | Competency Based Grading System |

7. Recommended Materials to Assist Students to Succeed Throughout the Course

(a) Unity in Action, by Joseph Hocking, Second Edition, Manning Publications, ISBN 9781617294969, also available as e-book

8. College Supports, Services and Policies

Immediate, Urgent, or Emergency Support
If you or someone you know requires immediate, urgent, or emergency support (e.g. illness, injury, thoughts of suicide, sexual assault, etc.), **SEEK HELP**. Resource contacts @

http://camosun.ca/about/mental-health/emergency.html or http://camosun.ca/services/sexual-violence/get-support.html#urgent

College Services
Camosun offers a variety of health and academic support services, including counselling, dental, disability resource centre, help centre, learning skills, sexual violence support & education, library, and writing centre. For more information on each of these services, visit the **STUDENT SERVICES** link on the College website at http://camosun.ca/

College Policies
Camosun strives to provide clear, transparent, and easily accessible policies that exemplify the college's commitment to life-changing learning. It is the student's responsibility to become familiar with the content of College policies. Policies are available on the College website at http://camosun.ca/about/policies/. Education and academic policies include, but are not limited to, Academic Progress, Admission, Course Withdrawals, Standards for Awarding Credentials, Involuntary Health and Safety Leave of Absence, Prior Learning Assessment, Medical/Compassionate Withdrawal, Sexual Violence and Misconduct, Student Ancillary Fees, Student Appeals, Student Conduct, and Student Penalties and Fines.

A. GRADING SYSTEMS *http://www.camosun.bc.ca/policies/policies.php*

The following two grading systems are used at Camosun College:

1. Standard Grading System (GPA)

Percentage	Grade	Description	Grade Point Equivalency
90-100	A+		9
85-89	A		8
80-84	A-		7
77-79	B+		6
73-76	B		5
70-72	B-		4
65-69	C+		3
60-64	C		2
50-59	D		1
0-49	F	Minimum level has not been achieved.	0

2. Competency Based Grading System (Non GPA)

This grading system is based on satisfactory acquisition of defined skills or successful completion of the course learning outcomes

Grade	Description
COM	The student has met the goals, criteria, or competencies established for this course, practicum or field placement.
DST	The student has met and exceeded, above and beyond expectation, the goals, criteria, or competencies established for this course, practicum or field placement.
NC	The student has not met the goals, criteria or competencies established for this course, practicum or field placement.

B. Temporary Grades

Temporary grades are assigned for specific circumstances and will convert to a final grade according to the grading scheme being used in the course. See Grading Policy at http://www.camosun.bc.ca/policies/E-1.5.pdf for information on conversion to final grades, and for additional information on student record and transcript notations.

Temporary Grade	Description
I	*Incomplete*: A temporary grade assigned when the requirements of a course have not yet been completed due to hardship or extenuating circumstances, such as illness or death in the family.
IP	*In progress*: A temporary grade assigned for courses that are designed to have an anticipated enrollment that extends beyond one term. No more than two IP grades will be assigned for the same course.
CW	*Compulsory Withdrawal*: A temporary grade assigned by a Dean when an instructor, after documenting the prescriptive strategies applied and consulting with peers, deems that a student is unsafe to self or others and must be removed from the lab, practicum, worksite, or field placement.